Hopkins, Sandor R.

From: Linda Metzger <legm7481@msn.com>
Sent: Friday, July 12, 2019 5:51 PM
To: Planning Comments
Subject: Cascade County Growth Policy - Big Sky Cheese New Information

Dear County Officials:

Please DENY the Special Use Permit for Big Sky Cheese, LLC for the following reasons:

- It's too water-intensive for our region.
- The applicant's answer to Question #4 about site choice is a smokescreen. This cheese factory is a run-it-up-the-flagpole test, and if Cascade County salutes and grants the permit, then not only will that smooth the way for an even worse proposition -- a slaughterhouse – but taxpayers also will be on the hook when it fails. Note the suggestive answer to Question #6: "The applicant **does not have plans currently** [emphasis added] to apply for any tax abatement program..." And why will it fail? Because in the past five years, Wisconsin (a state that knows cheese) has lost nearly a quarter of its dairy farms, and the loss is accelerating.

Cascade County will be going in the wrong direction if it approves this permit.

Linda Metzger
32 Windy Ridge Lane
Great Falls, MT 59404

Hopkins, Sandor R.

From: Gina Winters <gmwinters88@gmail.com>
Sent: Saturday, July 13, 2019 6:24 AM
To: Planning Comments
Subject: Cascade County Growth Policy

Yes on Big Sky Cheese.
Gina Winters

Sent from my iPhone

FOR OFFICE USE ONLY

Date Received: 7-13-2019

Date Reviewed: 7-29-2019

Complete: ☐ Yes ☒ No

Public Comment Form

Cascade County Public Works Department Planning Division
121 4th St N, Suite 2H-2I Great Falls, MT 59401
Phone: 406-454-6905 | Fax: 406-454-6919
Email: planningcomments@cascadecountymt.gov

Instructions

This form is for providing public comment to the Cascade County Planning Division for review by any one or more of the following review and/or approval boards: Zoning Board of Adjustment (ZBOA), Planning Board, or Board of County Commissioners. Only complete submissions will be included for board review. Please provide the relevant information for each section below. A complete submission provides all of the following: commenter name and address, comment subject, and commentary on the subject issue(s). If additional space is needed for commentary, please attach additional sheets to this form. Completed forms may be submitted in person at the Planning Division office or by email at planningcomments@cascadecountymt.gov.

Commenter Information

Name: Carolyn K. Craven

Complete Address: 101 14th Avenue South, Great Falls MT 59405

Comment Subject (please check one):

☐ Special Use Permit Application ☐ Subdivision ■ Zoning Text and/or Map Amendment

■ Growth Policy ☐ Variance ☐ Floodplain Regulation Amendment

☐ Subdivision Regulation Amendment ☐ County Road Abandonment/ Discontinuation of County Street

■ Other (describe): Big Sky Cheese

Comment

06.19.19 Cascade County & City of Great Falls
06.19.19 New & Revised Definitions
06.20.19 Special Use Permit
06.20.19 Commercial Dairy Zoning
06.22.19 Carbon Footprint of Cheese Production ZBOA
06.25.19 Highlights MT Milk Study ZBOA
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06.27.19 Big Sky Cheese Parcels Public Notice ZBOA
06.27.10 Big Sky Cheese Findings on Analysis ZBOA
06.27.19 Big Sky Cheese Growth Policy Compliance ZBOA
07.19.19 Big Sky Cheese New Whey Process Wastewater Concerns ZBOA

For Office Use Only					
Date Received:	7-19-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes ☐ No

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

July 19, 2019

PUBLIC COMMENTS FOR ZBOA

MFP BIG SKY CHEESE SUP
NEW INFORMATION
WHEY PROCESS WASTEWATER

Brief Background Information

"The wastewater resulting from cheese production is the most polluting among all types of dairy wastewaters given that it contains a huge quantity of organic biodegradable matter".

The main pollutant in milk processing wastewater is whey due to its high organic and volumetric load. It represents about 85–95 % of the milk volume and 55% of the milk components. Whey consists of carbohydrates (4–5 %), mostly lactose. Proteins and lactic acid amount to less than 1%, fats to around 0.4–0.5 %, while salts vary from 1 to 3 %. Whey is produced mainly in cheese manufacturing, and its volume depends on the productivity of cheese and the type of processed milk – bovine, goat, sheep.

Although dairy wastewaters have low concentrations of settleable solids, they may clog sewage pipes. Most of the suspension enters the initial stage of equipment cleaning. The bulk of the sediment (90 %) of organic matter is usually of protein origin, namely particles of solid milk processing (pieces of cheese, coagulated milk, cheese, curd fines, milk film or flavoring agents, etc.) and other impurities (soil or sand) that get into the sewage system during equipment washing or packaging.

(Mostaffa A. 2013. *Treatment of Cheese Processing Wastewater*; Int J Micro Res: 321-332).

A significant percentage of the total production of milk is used in cheese. Cheese and whey products may produce high levels of greenhouse gases(GHG) from energy use, consume high levels of water, and have significant wastewater challenges.
(Milani FX et al. 2011, *Environmental Impacts of Dairy Processes and Products*, J Am Dairy Assoc.)

C.K. Craven
Homeowner

CONCERNS

- **PROCESS WASTEWATER TREATMENT**
  - In the HR Green report it states "MFP *may* employ a technology called acidification to treat process wastewater before seasonal storage and reuse via land application by spray irrigation.
    - **Will MFP use acidification or not? "May" is an indecisive term.**
      - **If not acidification what process will MFP use?**
  - The HR Green reports that "the process wastewater will be pretreated using nutrient reduction/removal technologies, then stored in holding ponds approximately two to three acres in size".
    - **What are the "nutrients" that are removed?**
      - **How does MFP plan to meet phosphorous limitations in process wastewater? Will pretreatment be required to meet the phosphorous limitations?**
      - **Large quantities of salt are used in the dairy to salt the cheese. How does MFP plan to manage the salting process to minimize loss of chloride to the wastewater?**
      - **Another source of chloride is from backwashing of the water softeners. How does MFP plan to meet the standards required to assure the groundwater standards will not be exceeded?**
    - **How are those nutrients disposed that have been removed from the process wastewater?**
    - **How does MFP plan to manage the odors from the process wastewater?**
    - **Does the MT DEQ Wastewater Permit require monitoring? If so, does DEQ monitor or is it a self-monitoring program?**

➢ SPRAY IRRIGATION

- During the growing season the wastewater is applied to the fields using some type of irrigation equipment. One type of equipment is a center pivot system in which the wastewater is pumped to the pivot point of the center pivot system. The spray nozzles rotate around the field in a circular pattern, evenly distributing the wastewater. Other methods are a traveling gun system where a wheel mounted sprayer is pulled down a lane trailing a flexible rubber hose and the waste is irrigated over approximately a 100-foot wide strip. Other types of systems are temporary piping laid out in a grid pattern which is moved periodically or the nozzles are relocated such that the different areas of the field can be rested and loaded. The operation of these systems typically requires that there be suitable soils and at least 5 feet of separation to groundwater and bedrock. *(Wisconsin Department of Natural Resources)*

- **What type of irrigation system will MFP use?**

- **What soil testing is MFP planning on doing prior to spray irrigation?**

- **Will MFP determine the distance of separation to groundwater and bedrock?**

- **How will the amount of process wastewater sprayed on fields be determined to avoid oversaturation?**

- **What procedure will MFP use to monitor the crop uptake rates of the nutrients in the process wastewater, particularly nitrogen, phosphorous and chloride?**

➢ LAGOONS

- Since spray irrigation is generally not practical in winter, a large storage lagoon is required. They are less efficient in cold climates and may require additional land or longer detention times in these areas. Permits typically require that the wastewater be pretreated to approximately 100 mg/l BODs (Biochemical Oxygen Demand) prior to storage in a lagoon. This is necessary to control odors that would develop from storing unaerated, untreated waste.
  (Wisconsin Department of Natural Resources)

    - **What pretreatment method will MFP use to maintain appropriate BODs (Biochemical Oxygen Demands) prior to storage in the lagoon?**

- **Is there any evidence of lagoons that have <u>not</u> leaked with unexpected weather incidents?**

- **Do the storage lagoons completely freeze or partially freeze in winter?**

- The HRGreen report states "the seasonal storage pond *<u>may be aerated</u>* if needed to mix and aerate treated process wastewater prior to land use application. A number of alternative mixing and aeration systems will be reviewed and considered *<u>if deemed necessary by the regulatory authority</u>* (MDEQ).
  - There is substantive literature on the many benefits of aerating storage ponds. The major advantage is that an aerobic lagoon is odor free.
    - **Why wouldn't MFP aerate the storage pond?**
      - There is no violation of the law if MFP does more than the required minimum.

- Concerns about open lagoons for process wastewater, including whey, with likely risks for leaks into groundwater or worse, depending on climate fluctuations and possible heavy flooding.

  - **Will the lagoons be lined? If so, what materials? If not, why not?**

- On staff recommendation "Alternative 2" there is no mention in the list of conditions for location and depth of lagoons, wastewater management, monitoring, storing process wastewater in open lagoons and spray irrigating on fields without oversaturating and risking seepage into groundwater. Why were these significant concerns not addressed more thoroughly?

  - **Is there any mechanism for monitoring of storage lagoons and possible leaks into the groundwater?**

- Concerns with leaks in lagoons or spillage from heavy rains and other weather uncertainties.

- Concerns about the high connectivity between the ground and surface water in this region of the Madison Aquifer, which would adversely impact surface and ground water in the event of accidental pollution (not "if" accidental pollution occurs, but "when").

C.K. Craven
Homeowner

- Concerns with backup of process wastewater during the winter months above the capacity of the lagoons to handle.
    - **What will MFP do with the process wastewater that is beyond the capacity of the lagoons to handle?**

- **Where on the parcel of the proposed cheese plant will the lagoons and holding tanks be placed, specifically how close to the location of Antelope Coulee and Sand Coulee creek?**

- **How deep will the lagoons be?**

- **Is there a permit for lagoons?**

- **Is there any regulatory monitoring of the lagoons?**

➢ **ODORS**

- Concerns about odors which, per the research, can be quite noxious.

- The HRGreen report states "The exhaust air from the wastewater treatment facilities *can* be filtered/treated as needed to mitigate and address odor concerns.
    - **"Can be" is another indecisive term. Will MFL filter/treat the exhaust air or not?**
        - **Who will determine if filtering the exhaust air will be needed?**
        - **If a citizen reports odor concerns, would MFP begin filtering the exhaust air?**
        - **What are the requirements of the Clean Air Act for industrial exhaust air?**

- Mitigation issues with whey odors
    - An Idaho rural community dealing with process whey spray irrigation from a Chobani factory reported noise pollution truck traffic from 24-hour tanker trucks delivering process wastewater, noxious odors, decreased quality of life and concerns about environmental quality and sustainability. Per the Boise Weekly, "As whey soaked the soil, temperatures climbed and the wind blew across the land, prompting neighbors to grill the Idaho Department of Environmental Quality and government officials about noise pollution from heavy traffic, farming rights, disclosure, environmental sustainability and, in general, the smell of the newest operation up the road. The questions paralleled concerns from neighbors near Chobani's rural New York plant." *(Boise Weekly, August 14, 2013, "Away with the Whey: Chobani Yogurt puts Rural Idaho in a Stink")*
    - According to David Anderson, Idaho DEQ drinking water and engineering manager, "There's the potential for mismanagement of the whey irrigation that could cause some groundwater concerns."
    - Macro-nutrients (N, P) may cause eutrophication of the receiving water and ultimate death of aquatic life.

The primary concerns with the dairy and cheese processing industries revolve around the management of liquid wastes, the use of antibiotics and growth hormones in the cows producing the milk and their effect on human health and the environment, and humane treatment of dairy cattle. Specifically, dairy and cheese processing produce large amounts of liquid wastes that are stored in retention ponds or lagoons and then applied to cropland for disposal. Over-application of wastewater to land often results in contaminated groundwater. Soil structure may also be adversely affected due to wastewater application. *Environmental Guidelines for the Dairy Processing Industry, Publication 570, EPA, Victoria, AU.*

Respectfully submitted,

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

C.K. Craven
Homeowner

Hopkins, Sandor R.

From: carl jurenka <carljurenka@yahoo.com>
Sent: Saturday, July 20, 2019 2:58 PM
To: Planning Comments
Subject: Comments on July 22 Planning Board Meeting

FOR OFFICE USE ONLY

Date Received: 7-20-2019
Date Reviewed: 7-29-2019
Complete: ☐ Yes ☒ No

To: Cascade County Planning Board

Re: Big Sky Cheese, LLC supplemental Information and the July 22, 2019 meeting

Sirs:

I have read the additional information submitted by Ed Friesen concerning the Big Sky Cheese special use permit. I am even more concerned with this project than before.

If I have the facts correct, Big Sky Cheese is borrowing 2.27 million dollars from GEDA to build a cheese plant and hiring only 5 to 10 workers. This plant will use 13,000 gallon of water daily (3.38 million gallons yearly) to process cheese. What guarantee do the existing water users have, both business and private, that the wells will not run dry or be polluted?

The waste water and other contaminants will be stored in a 2 to 3 acre waste pond to be sprayed on surrounding farm fields. What happens in the winter, especially the type of winter we just had?

The amount of milk required to process this cheese greatly exceeds the amount of milk produced by Montana dairy's state wide. Where will the extra milk supply come from? And not mentioned is what type of cheese will be produced. Is it soft, semi-soft or aged cheese? Each requiring different processes.
The information being presented just doesn't make sense. The numbers just doesn't add up. For that reason, this project should be rejected. Do your job and protect our water and air quality.

If Ed Friesen wants this project so bad, have it built at the agri-park just north of Great Falls as part of the 190 shovel ready land. The water can

come from city water and the waste can be processed by the Great Falls Water Department.

Carl Jurenka
4119 Central Avenue
Great Falls, MT. 59405

Hopkins, Sandor R.

From: ronald cockrell <r_rell@hotmail.com>
Sent: Tuesday, July 23, 2019 10:31 AM
To: Planning Comments
Subject: Slaughter house disguised as cheese factory

We are opposed to the future Slaughterhouse being planned for our area... aside from water, there is infrastructure, roads,,which will be traveled with heavy loads , schools, housing, police, fireman, and the stench of dead carcass...
Sent from my iPhon

Public Comment Form

Cascade County Public Works Department Planning Division
121 4th St N, Suite 2H-2I Great Falls, MT 59401
Phone: 406-454-6905 | Fax: 406-454-6919
Email: planningcomments@cascadecountymt.gov

Instructions

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Commenter Information

Name: TAMMIE LYNNE SMITH

Complete Address: 397 HIGHWOOD ROAD, GREAT FALLS, MT 59405

Comment Subject (please check one):

- ☒ Special Use Permit Application
- ☐ Subdivision
- ☐ Zoning Text and/or Map Amendment
- ☐ Growth Policy
- ☐ Variance
- ☐ Floodplain Regulation Amendment
- ☐ Subdivision Regulation Amendment
- ☐ County Road Abandonment/ Discontinuation of County Street
- ☒ Other (describe): SUP #006-2019 BIG SKY CHEESE, LLC - WASTEWATER

Comment

TO: PLANNING STAFF, ZBOA MEMBERS, COUNTY ATTORNEY

I have reviewed the additional information provided by Big Sky Cheese, LLC for SUP #006-2019.

I appreciate ZBOA board members requesting additional information concerning wastewater.

1. HRGreen provided anticipated wastewater characteristics based on "similar facilities" and acknowledged that the information is a hybrid of available data. Further, HRGreen states that incoming milk characteristics directly impact the wastewater characteristics "making complete system design infeasible" at this time. HRGreen goes on to say that the wastewater system may need to be adjusted periodically to accommodate changes in milk source/quantities. If the SUP is granted prior to the development of an adequate wastewater system how will Cascade County ensure public health and safety?

2. HRGreen provided estimated waste water accumulation per day at 13,000 gallons. There is significant data available in the Food Technology and Milk Process industries that contradicts this estimate. A review by MT DEQ of the assumptions put forth by MFP should be completed prior to the granting of the SUP.

3. HRGreen states waste water treatment will be completed using commonly practiced treatment technologies. The response further states one process, acidification, "may" be used. If the SUP is approved without defining specific processes for waste water treatment and lagoon storage how will Cascade County ensure public health and safety?

4. HRGreen indicates that treated waste water "may" be reused via land application and/or irrigation. Please refer to NCRS Soil Surveys for the parcel indicating that the soils are "very limited" or "somewhat limited" for waste water disposal by irrigation. Applicant should be required to develop a plan with NRCS for disposal by irrigation prior to the issuance of a SUP. How will Cascade County monitor such development if the SUP is issued without a proper plan?

For Office Use Only					
Date Received:	7-25-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes ☐ No

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Phone: 406-454-6905 | Fax: 406-454-6919
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Commenter Information

Name: Helen Coleman

Complete Address: #11 homestake Lane Great Falls

Comment Subject (please check one):

- ■ Special Use Permit Application
- ☐ Subdivision
- ☐ Zoning Text and/or Map Amendment
- ☐ Growth Policy
- ☐ Variance
- ☐ Floodplain Regulation Amendment
- ☐ Subdivision Regulation Amendment
- ☐ County Road Abandonment/ Discontinuation of County Street
- ☐ Other (describe): _____

Comment

To planning staff
Regarading all your resposes to the public's input on June 26,2019
Perception is in the eye of the beholder.: emplyment of 5-10 emplyees

Please drive around town and inquire from businesses that post "for hire" signs how many responses they receiv;e with in a week or just return to that particular business within another week to determine whether thatpositions has been filled. This huge Cheese Processing planet will train these 5-10 persons plus MFP intends to develop training and apprentice ship opportunities with MSU to aid in the preparation of local residents for job opportunities offered at MFP.... Are we I really discussing the Cheese Plant or are we discussing the Slaughterhouse?? An aknowledgment of which plant are we training people for? Lets really talk about the elephant in the room... which is where all the concern comes from....

Promote fire prevention measures throughoout the county giving emplasis to extreme fire hazards present at the are. Every fireman everywhere are my heroes especially those who volunteer in rural areas.. but realistically exactly what is the response time to a Grass fire? I cannot give accurate answer because there are many variables including the presen emplyment of each particular fireman. Each indivvidual's own ability to respond on each given day. Add in the wind factor and there is a possibility of a real problem and a huge fire.....

If we are discussing only the Cheese Processing Plant. Please review Shannon Guilfoyle's response regarding the AMOUNT of Montana's CURRENT MILK Production does not equal 1 million pounds of milk per day and this will

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Date Received:	07/25/2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes	☐ No

And will require a significant out of state volume of milk per pound in order to compete in current markets.

So if all the milk is needed and not available in Montana is the projected design in error???

My final perception regards the word DEVELOPMENT Each of us recognizes this word and evaluates this word with our own experiences.... Seeing development in other communities in Montana has never included a Cheese Processing Plant or slaughterhouse so I wonder why our leaders assume this word development creates a need for them to import from Canada or elsewhere a toxic destruction to the local agriculture land and cause reduction to our home values ?

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Cascade County Public Works Department Planning Division
121 4th St N, Suite 2H-2I Great Falls, MT 59401
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Commenter Information

Name: Carolyn K. Craven

Complete Address: 101 14th Avenue South, Great Falls MT 59405

Comment Subject (please check one):

- ☐ Special Use Permit Application
- ☐ Subdivision
- ■ Zoning Text and/or Map Amendment
- ■ Growth Policy
- ☐ Variance
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Comment

06.19.19 Cascade County & City of Great Falls
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07.19.19 Big Sky Cheese New Whey Process Wastewater Concerns ZBOA
07.24.19 Big Sky Cheese Supplemental Info MCA-Exempt Wells-Reclamation ZBOA
07.25.19 Big Sky Cheese Supplemental Info Water Concerns ZBOA

For Office Use Only					
Date Received:	7-25-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes ☐ No

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

July 24, 2019

PUBLIC COMMENTS FOR ZBOA
MFP BIG SKY CHEESE SUP
SUPPLEMENTAL INFORMATION

From MFP SUP Supplemental Information
To provide the necessary water supply, two water supply wells are proposed. Both wells are expected to be completed in the Madison Formation (Madison) at depths of approximately 500 feet. Both wells would be filed through the Montana Department of Natural Resources (DNRC) using Form 602 - Notice of Groundwater Development. These notices are for wells pumping up to 35 gallons per minute (GPM) and 10 acre-feet (AF) per year and are exempt from DNRC permitting.

Per MCA 85-2-306(3)(a)(iii) below, the combined quantity of the two wells would have to be 35 gpm or less and cannot exceed 10 acre-ft/year. MFP has not provided any calculations as to how they calculated their water use need. As a citizen and taxpayer I would like to know the integrity of their numbers based on the anticipated cheese output and the amount of water that will be required for the various components of that process.

MCA 85-2-3 APPROPRIATIONS, PERMITS, & CERTIFICATES OF WATER RIGHTS

85-2-306. Exceptions to permit requirements

(3)(a) Outside the boundaries of a controlled ground water area, a permit is not required before appropriating ground water by means of a well or developed spring:

(iii) When the appropriation is outside a stream depletion zone, is 35 gallons a minute or less, and does not exceed 10 acre-feet a year, except that a combined appropriation from the same source by two or more wells or developed springs exceeding 10 acre-feet, regardless of the flow rate, requires a permit.

85-2-342. Definitions. Unless the context requires otherwise, in 85-2-343 and this section, the following definitions apply:

(1) "Application" means an application for a beneficial water use permit pursuant to 85-2-302 or a state water reservation pursuant to 85-2-316.

(2) "Nonconsumptive use" means a beneficial use of water that does not cause a reduction in the source of supply and in which substantially all of the water returns without delay to the source of supply, causing little or no disruption in stream conditions.

(3) "Upper Missouri River basin" means the drainage area of the Missouri River and its tributaries above Morony dam.

85-2-343. Basin closure -- exceptions.

(1) As provided in 85-2-319 and subject to the provisions of subsection

(2) of this section, the department may not grant an application for a permit to appropriate water or for a reservation to reserve water within the upper Missouri River basin until the final decrees have been issued in accordance with part 2 of this chapter for all of the sub-basins of the upper Missouri River basin.

C.K. Craven
Homeowner

85-2-360. Ground water appropriation right in closed basins.

(1) An application for a ground water appropriation right in a basin closed pursuant to 85-2-319, 85-2-321, 85-2-330, 85-2-336, 85-2-341, 85-2-343, or 85-2-344 must be accompanied by a hydrogeologic report conducted pursuant to 85-2-361, an aquifer recharge or mitigation plan if required, and an application for a change in appropriation right or rights if necessary.

(2) The department shall use the hydrogeologic report to determine if the proposed appropriation right could result in a net depletion of surface water.

85-2-361. Hydrogeologic report -- minimum requirements.

(1) A hydrogeologic report must include:

(a) a description of the proposed appropriation, including the point of diversion, the place of use, the area affected by the proposed appropriation, and aquifers and surface waters that may be affected by the proposed appropriation right;

(b) the amount of water diverted and the amount of water consumed by the proposed appropriation right;

(c) the amount of water that will likely be lost in conveyance, the amount of conveyance losses that would return to the system, and the location where conveyance losses would return to the system;

(d) the amount, timing, and location of return flows from the proposed use;

(e) the geology of the affected area, including stratigraphy and structure;

(f) the parameters of the aquifer system within the affected area to include estimates for:

(i) the lateral and vertical extent of the aquifer;

(ii) an analysis of whether the aquifer is confined or unconfined; and

(iii) the transmissivity and storage coefficient related to the aquifer;

(g) the locations of surface waters within the affected area that are subject to an appropriation right that may show a net depletion;

(h) an analysis of whether there may be a net depletion of surface water in the affected area and the rate, location, and timing of the depletion, if any; and

(i) a description of any water treatment method used at the time of any type of injection or introduction of water to the aquifer to ensure compliance with 75-5-410, 85-2-364, and the water quality laws under Title 75, chapter 5.

(2) A hydrogeologic report must be prepared by a hydrogeologist, a qualified scientist, or a qualified licensed professional engineer.

(3) The hydrogeologic report, the test well data, the monitoring well data, and other related information must be submitted to the department. The department shall submit this information to the bureau of mines and geology. The bureau of mines and geology shall make the information available through the ground water information center database.

85-2-381. Water right enforcement of ground water uses exempt from permitting ---findings and purpose:

(d) the development of ground water wells that are exempt from permitting may have an adverse effect on other water rights.

Goal: Protect Available Water Supply and Develop Strategies in Response to Climate Changes

Climate change and shifting weather patterns affect the amount and distribution of precipitation, and whether that precipitation occurs as rain or snow. As a result, streamflow is likely to change in the Upper Missouri basin in amount, timing and distribution. In response, water users are learning to adapt to changes in streamflow, growing season and irrigation demand. Ultimately, management agencies and stakeholders will need to adapt to these shifts in their land- and water-use practices and in their decisions to protect water supplies.

From 2014 Montana Water Supply Initiative – Upper Missouri River Basin Water Plan (219 pages)

C.K. Craven
Homeowner

2016
MT SUPREME COURT
CLARK COALITION v. DNRC
EXEMPT WELLS

MT SUPREME COURT
Excerpts

The Coalition cites data compiled by the DNRC that, since the DNRC's promulgation of the 1993 rule, exempt appropriations under § 85-2-306(3)(a)(iii), MCA, have grown steadily by approximately 3,000 each year. The DNRC estimates that there are now 113,000 exempt appropriations in Montana, consuming significant amounts of water. The DNRC anticipates that exempt appropriations will continue to grow rapidly. By the year 2020, the DNRC projects that there could be an additional 78,000 exempt appropriations in Montana. Closed basins have not been immune from this trend. The DNRC estimates that 30,000 new exempt appropriations will be added in the next two decades in closed basins alone, resulting in an additional 20,000 acre-feet per year of water consumed in these already over-appropriated basins. The DNRC has recently acknowledged the concerns of senior users that the cumulative effects of these exempt appropriations are having a significant impact in terms of reducing groundwater levels and surface water flows and that the cumulative impact of the appropriations may be harming senior water users' existing rights.

Section 85-2-306(3)(a)(iii), MCA, is one amongst several statutory exemptions to the water permit process and provides: When the appropriation is outside a stream depletion zone, is 35 gallons a minute or less, and does not exceed 10 acre-feet a year, except that a combined appropriation from the same source by two or more wells or developed springs exceeding 10 acre-feet, regardless of flow rate, requires a permit...The statute thus allows an exemption from the permitting process and provides for a lawful appropriation when the amount of appropriation does not exceed 35 gallons per minute and 10 acre-feet per year. Based upon the plain language of the statute, it is evident that the intent of the Legislature in enacting subsection (3)(a)(iii) was to ensure that, when appropriating from the same source, only a de minimus *quantity* of water, determined by the Legislature to be 10 acre-feet per year, could be lawfully appropriated without going through the rigors of the permitting process.

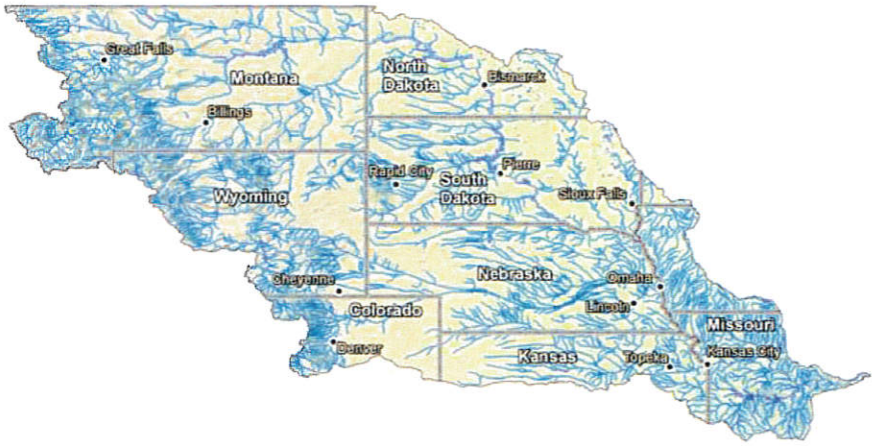
Finally, the 2013 amended statute, § 85-2-306(3)(a)(iii), MCA (2013), provides: When the appropriation is outside a stream depletion zone, is 35 gallons a minute or less, and does not exceed 10 acre-feet a year, except that a combined appropriation from the same source by two or more wells or developed springs exceeding 10 acre-feet, regardless of the flow rate, requires a permit; or (iv) when the appropriation is within a stream depletion zone, is 20 gallons a minute or less, and does not exceed 2 acre-feet a year, except that a combined appropriation from the same source by two or more wells or developed springs exceeding this limitation requires a permit.

C.K. Craven
Homeowner

RECLAMATION
Managing Water in the West
U.S. Department of the Interior
Bureau of Reclamation

Basin Report: Missouri River

The Missouri is the longest river in the United States. It has a watershed of more than 500,000 square miles, includes portions of 10 states and one Canadian province, and encompasses approximately one-sixth of the United States. The Missouri drains the largest watershed within the United States and produces annual yields of 40 million acre-feet. Reclamation has constructed more than 40 dams on Missouri River tributaries that have helped with agriculture development in the basin. The facilities in the basin also provide significant benefits, including flood control, navigation, irrigation, power, water supply, recreation, fish and wildlife, and water quality.



Navigation is important in the lower basin states. Reliable water delivery for agriculture and municipal, rural, and industrial use is important in the upper basin states.

To continue to meet these critical needs and protect natural resources, Reclamation and stakeholders must continually evaluate and report on the risks and impacts of climate change and identify appropriate adaptation and mitigation strategies utilizing the best available science.

Future Changes in Climate and Hydrology

Reclamation's 2016 SECURE Water Act Report identifies climate challenges the Missouri River Basin could likely face:

- Temperatures in the Missouri River Basin are projected to increase by roughly 5°F - 6°F during the 21stcentury.
- In the Missouri River Basin precipitation is projected to remain variable with a slight increase in the basin by 2070.
- In the Missouri Basin moisture falling as rain instead of snow at lower elevations is projected to increase the wintertime runoff with decreased runoff during the summer.

Future Impacts for Water and Environmental Resources

Historical and projected climate changes have potential impacts for the basin:

- Runoff decreases during the spring and early summer likely translate into water supply reductions for meeting irrigation demands, adversely impacting hydropower operations, and increasing wintertime flood control challenges.
- Warmer conditions might increase fishery stress, increase electricity demand, increase water demands for instream ecosystems, increase potential for invasive species infestations, and further shrink the prairie pothole region.
- Climate changes in the Missouri Basin could lead to declines in basin hydropower generation and moderate decreases in local water supplies

C.K. Craven
Homeowner

From 2014 Cascade County Growth Policy (2014 CCCGP)
GOAL 8 PROTECT SURFACE AND GROUNDWATER FROM POLLUTION.

This goal is my job and your job. We all have a vested interest in maintaining the quality, quantity and sustainability of our water. I urge the ZBOA/PB to add a condition to the SUP that MFP must meet the standards of the MT water and wastewater permits to ensure the necessary testing and monitoring, using an independent engineer with whom MFP has no past or current contacts and at applicant's expense.

With climate uncertainties and the possibilities of unexpected flooding, contaminants could easily enter our aquifer and streams. According to the 2014 CCGP, "a major hazard inherent to this landscape unit is flooding. Extensive flooding has occurred on the lower Sun River and along Belt and Sand Coulee Creeks." Also these climate uncertainties present the very real possibility of runoff decreases, per the Bureau of Reclamation report, which provide challenges for community and hydropower water use. The permit standards and oversight would help MFP ensure the best locations for wells and lagoons.

The very best scenario would be to deny this environmentally challenging industrial use, protect our open spaces and croplands, and manage our water resources optimally. We have been part of the problem and we can also be part of the solution by creating a different vision for sustainable and environmentally neutral growth that will promote recreation and tourism, allowing us to preserve this "last best place."

Respectfully submitted,

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

C.K. Craven
Homeowner

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

July 25, 2019

PUBLIC COMMENTS FOR ZBOA

MFP BIG SKY CHEESE SUP
NEW INFORMATION
WATER CONCERNS

- HydroSolutions states: "To provide the necessary water supply, two water supply wells are proposed. Both wells are expected to be completed in the Madison Formation at depths of approximately 500 feet. As part of the due-diligence process, HydroSolutions Inc evaluated the potential adverse effects these pumping wells could have on other area wells. Both wells would be filed through the Montana Department of Natural Resources (DNRC) using Form 602 - Notice of Groundwater Development. These notices are for wells pumping up to 35 gallons per minute and 10 acre-feet per year and <u>are exempt from DNRC permitting.</u>

    - **There are significant concerns with having any exempt wells associated with this project, which has high risks for contamination of groundwater and ultimately the Missouri river and the Madison aquifer. An exempt well has no oversight or regulations. There would be no monitoring of how much water the cheese plant actually uses so they could easily use more than the estimate above.**
        - **How did Hydrosolutions "evaluate the potential adverse effects these pumping wells could have on other area wells" and how is this relevant to the proposed wells that would be on a completely different parcel?**

MADISON AQUIFER

The Madison aquifer underlies eight states in the U.S. and Canada: Montana, North Dakota, Wyoming, South Dakota, Nebraska, Alberta, Saskatchewan, and Manitoba. It is an important water resource in the northern plains states where surface water supplies are limited and population is increasing. *USGS Groundwater Info & DNRC Fact Sheets*

More than 900 wells obtain water from the Madison Limestone near Great Falls. The Madison Limestone is more than 400 feet below the surface at Great Falls. Long-term data suggests that groundwater withdrawals are not the prime driver of water-level changes. **Rather climate, or more specifically precipitation, appears to be the primary water level control. Declining water levels are a major issue for many of the communities using the Madison aquifer. The response of Madison aquifer storage to changes in recharge rates is a critical issue because decreases in storage related to drought conditions will continue if long-term climate change results in extended drought. The Madison aquifer system is dynamic and is strongly impacted by short-term and long-term climate variability**. *MBMG, John LaFave, Tracking Montana's Groundwater*

C.K. Craven
Homeowner

STUDY UNVEILS MYSTERIES OF MADISON AQUIFER

Highlights from this study include finding that "the aquifer is susceptible to surface contamination, and finding plentiful, quality water in the layer of 355 million-year-old limestone and shale can be 'hit or miss.' The investigation involved checking water quality and quantity and where the aquifer water appears and disappears at the surface. Researchers studied well logs, drilled two wells, measured hourly water levels in wells and waded into streams and rivers documenting how much water was lost into the aquifer. Cameras were lowered deep into Madison wells, with images showing no water in some instances despite being hundreds of feet deep. 'A lot of the Madison water quality is very good, but we did find pockets of poor quality', said Kevin Chandler, a scientist with the Bureau of Mines and Geology. **The study found wide variations in water quality and yield**, which goes against the perception that just drilling a well into the deep Madison will produce an abundance of high-quality water, Chandler said. In fact, drilling wells in recharge areas can result in expensive, low-production wells." The Madison aquifer study was requested by Cascade County in 2008 and funded with a $287,000 grant from the state Department of Natural Resources and Conservation. *Karl Puckett, Great Falls Tribune; March 31, 2014*

ADDITIONAL INFO ON MADISON AQUIFER

- The Madison aquifer is one of the largest aquifers so it is different in different geographic locations. For our location it is more of a "quick infill – quick release" because we are connected with all the streams down to the Missouri River. Recharge rates are influenced by nearby surface water and very dependent on precipitation.
- If depleted it creates a cone of depression, which deepens the aquifer.
- Streams and wetlands can be completely dried up by induced recharge from well pumping. The Oregon Water Resources Department considers wells within 0.25 miles of a stream to have a potential effect on stream flow.
- If pollution is dumped on farmland (lagoons, spray fields) it will seep through to the groundwater.
- Quantity
    - Recharge rates are influenced by nearby surface water
    - Industrialized agriculture is a net negative to waterways and ecological health
        - Surface water pollution
        - Ground water pollution from lagoon management and seepage of spray wastewater
- Ecological health involves everyone. WATER is a bipartisan concern.

C.K. Craven
Homeowner

2014 CASCADE COUNTY GROWTH POLICY

In previous comments submitted to ZBOA on June 27, 2019, I discussed the MFP SUP and lack of compliance in following clear instructions: *Explain how the proposed use will be consistent with each of the Cascade County Growth Policy goal objectives.* ***All objectives must be discussed. If an objective is not applicable, please explain why.*** *The more information you can provide, the easier it is for staff and the Zoning Board of Adjustment to review the application.*

MFP only addressed 5 of the 13 goals (38%) and only 27 of the 94 objectives (28%) in the 2014 CCGP.

They did not address anything about GOAL #8
Protect surface and groundwater quality from pollution.

GOAL 8 WATER QUALITY
PROTECT SURFACE AND GROUNDWATER QUALITY FROM POLLUTION
OBJECTIVES

Discourage development with on-site wastewater treatment systems in areas having inappropriate soils or high groundwater, as indicated on the revised Cascade County soil maps, to help prevent the contamination of groundwater supplies.

MFP acknowledges that the parcel chosen for the cheese plant has soils designated as prime farmland, which is not consistent with the 2014 Cascade County Growth Policy.

SEE BELOW FOR INFO ON SOIL AND PRIME FARMLAND ON THE PROPOSED CHEESE PLANT SITE

C.K. Craven
Homeowner

SOILS

From Big Sky Cheese SUP Application

Soils at the proposed dairy building are generally described by NRCS as Lawther-Gerber complex (8%-15% slopes) and Gerber-Lawther Silty Clays (4%-8% slopes). These soils predominantly consist of silty clays and silty clay loams and they are defined as "well drained." The soils are further defined as have no frequency of flooding and no frequency of ponding. NRCS indicates these soil types have a "capacity of the most limiting layer to transmit water to transmit water" as moderately low to moderately high at 0.06-0.20 inch/hour.

Goal 3 Maintain agricultural economy *2014 Cascade County Growth Policy (2014 CCGP)*
Objective A. Protect the most productive soil types

From Big Sky Cheese SUP Application

As shown on the soil report, portions of the property acquired by MFP are considered Prime Farmland or Farmland of Statewide Importance.

8.2 RESOURCE PROTECTION AREAS DESIGNATION AND ESTABLISHMENT *(2014 CCGP)*

The following resource protection areas are hereby established as part of the 2014 CCGP.

- Prime Agricultural Soils
- Forest Cover

8.3 PRIME AGRICULTURAL SOILS AREAS *(2014 CCGP)*

The prime agriculture soils resource preservation areas are intended to contain those soil areas where it is necessary and desirable, (because of their high quality, availability of water, and/or highly productive agricultural and grazing capability), to preserve, promote, maintain and enhance the use of such areas for agricultural purposes and to protect such land from encroachment by non-agricultural uses, structures or activities. Therefore, the prime agricultural soil preservation areas of Cascade County are those areas where the soils have been classified by the Natural Resources Conservation Service (NRCS), according to the NRCS definition of prime farmland or farmland of statewide importance.

C.K. Craven
Homeowner

7.2 RIVERS, STREAMS, LAKES, AND RESERVOIRS *(2014 CCGP)*

Lakes, reservoirs, and rivers include water bodies either flowing or standing for all or most of the year. Included in this landscape unit are those lands immediately adjacent to water bodies that directly influence the physical, biological and chemical properties of the water.

EXTENT AND DESCRIPTION *(2014 CCGP)*

This landscape unit represents the major drainages and their tributaries. The dominant drainage is the Missouri, which traverses the County from the southwest to the northeast. Included are the Missouri River's tributaries; the Sun, Smith and Dearborn Rivers and their respective tributaries; Sand Coulee and Belt Creek and their tributaries.

Of significance is that Antelope Creek and Box Elder Creek flow into the Missouri in Great Falls. Sand Coulee Creek flows into the Missouri prior to reaching the Great Falls Water Treatment Plant.

The south side of the property for the cheese plant drains south and west into Antelope Creek and into Sand Coulee Creek.

From MFP SUP...

The existing topography is generally rolling hills with moderate slopes. The north side of the property drains northerly toward the MDT R/W. Storm drainage from the north side of the property will eventually reach the Missouri River. The south side of the property drains south and west into Antelope Creek and eventually enters Sand Coulee Creek, which also discharges to the Missouri River just upstream and south of City of Great Falls.

GEOLOGIC HAZARDS *(2014 CCGP)*

The major hazard inherent to this landscape unit is flooding. Extensive flooding has occurred on the lower Sun River and along Belt and Sand Coulee Creeks.

POLICY *(2014 CCGP)*

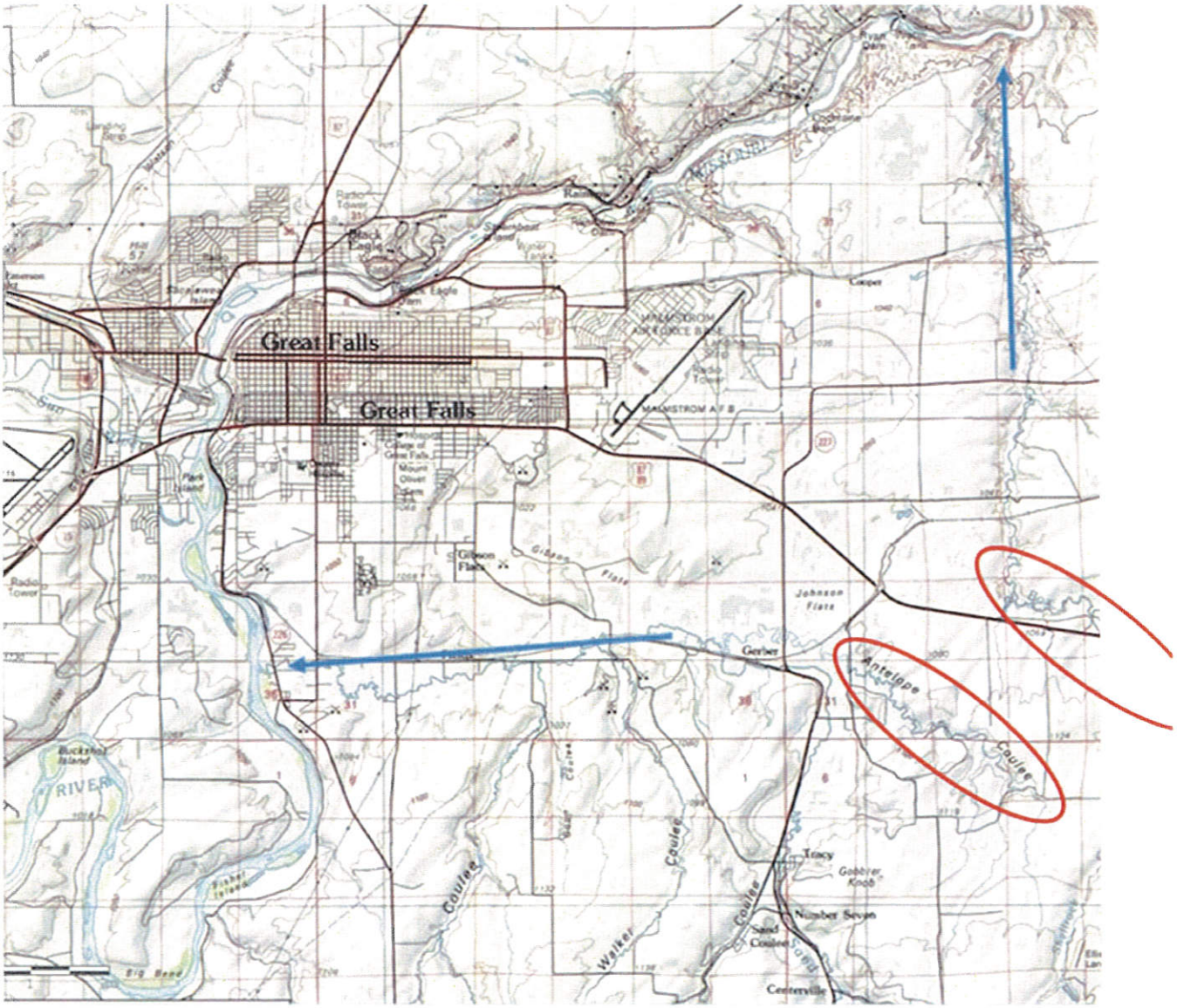
Since the rivers, lakes, streams and reservoirs are the highest priority landscape unit in terms of agriculture, aesthetics, wildlife habitat and recreation, development of water systems for domestic and agricultural uses should be subject to review by the Cascade Conservation District and should be in compliance with Montana's Stream Bank Preservation Act (SB310)

Therefore, the prime agricultural soil preservation areas of Cascade County are those areas where the soils have been classified by the Natural Resources Conservation Service (NRCS), according to the NRCS definition of prime farmland or farmland of statewide importance.

C.K. Craven
Homeowner

Carolyn Craven

From: LaFave, John <JLaFave@mtech.edu>
Sent: Monday, July 8, 2019 10:52 AM
To: lifeisgood4us@xmailpost.com
Subject: Antelope and Box Elder Creeks - both flow to the Missouri



Program Manager, Ground Water Assessment
Program Montana Bureau of Mines and Geology
1300 W. Park St.
Butte, MT 59701
406-496-4306
jlafave@mtech.edu

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C.K. Craven
Homeowner

FROM MFP SUP APPLICATION

Q6. *Does the proposed use require any other local, state, or federal permits or licensing? If so, indicate the permits and/or licenses and when they will be acquired. If the permit has already been acquired, provide the permit and/or license number.*

R6. Water rights and permitting will be completed by MFP's contracted hydrogeologist. Montana DEQ will provide review, approval and permitting for wells, process water treatment and storm drainage facilities associated with the development.

QI8. *Estimated volume of water to be used (gallons per day) and the source of water.*

R18. The Proposed Plan of Operations adopted for Madison Food Park (MFP), as drafted by the project development team, includes the following assumptions related to the development of and access to a source of onsite water. The development plan for accessing the source of the water required for utilization at MFP includes the drilling and development of 1-2 production wells which will draw water from the Madison Formation located beneath the property. The development team has retained the professional services of Dave Baldwin, Senior Hydrogeologist/Senior Water Rights Specialist at Hydrosolutions, a Montana licensed consulting firm.

Projected MFO Dairy Facility Building Water Usage projections (gal/day).

Estimated Water Usage 12,960 gpd (10.3 acre-ft/yr)

FROM MFP SUP SUPPLEMENTAL INFORMATION

HydroSolutions states in the supplemental information that "Estimated daily water needs are 13,000 gallons, so the Facility would require about 10 acre-feet per year based on 260 workdays annually. To provide the necessary water supply, two water supply wells are proposed. Both wells are expected to be completed in the Madison Formation (Madison) at depths of approximately 500 feet... Both wells would be filed through the Montana Department of Natural Resources (DNRC) using Form 602 - Notice of Groundwater Development. These notices are for wells pumping up to 35 gallons per minute (GPM) and 10 acre-feet (AF) per year and are exempt from DNRC permitting.

WATER WELL PERMIT CONCERNS

MFP states they will not need to have a water well permit as their water use will be just under the cutoff for exempt well usage, contrary to what they stated in R6 above, that "MT DEQ will provide review, approval and permitting for wells, process water treatment and storm drainage facilities associated with the development."

- **To date MFP has not acquired permits for anything.**
- **No information has been provided on how the amount of water needed was calculated.**

C.K. Craven
Homeowner

CONCERNS FOR ZBOA TO ADDRESS

1) **Recommend the floodplain issue with Antelope Coulee and the proximity to Antelope Creek and Sand Coulee Creek be carefully studied. Perhaps this location is not the best for the cheese plant.**

2) **Recommend the ZBOA require test wells on the proposed cheese plant site, as they requested. MFP provided well data from off-site wells located between ~3 miles and ~8 miles from the cheese plant site. MFP did not provide the informationas requested by the ZBOA. Therefore, there is no data yet from on-site test wells.**

3) **MFP has not provided details on how they calculated water use needs and how they calculated wastewater generated. This is crucial data!**

4) **MFP has not provided any documentation of availability of water from Canyon Ferry to offset withdrawals from the Madison Aquifer, nor any data about the effectiveness or potential adverse impacts to the Madison Aquifer and Giant Springs.**

5) **MFP has not addressed previously stated concerns by the public about amount of water needed for firefighting.**

6) **There are viable concerns about the high connectivity between the ground and surface water in this region, which would adversely impact ground and surface water in the event of flooding and accidental pollution (not "if" contamination, but "when"). Please refer to the DNRC Upper Missouri Water Basin (2014), Bureau of Reclamation Managing Water in the West (2014) and the DNRC Water Reservation Ten-Year Report (2016).**

7) **Concerns from various studies and peer-reviewed articles that "industrialized agriculture" (including value-added commodity manufacturing) is a net negative to waterways and ecological health. It is common to have surface water pollution as well as ground water pollution from lagoons. Additionally, there are concerns about spray irrigation, soil integrity and seepage into the groundwater.**

C.K. Craven
Homeowner

REQUESTS TO ZBOA

- **Request that the ZBOA require MFP to provide those specific calculations, based on their anticipated cheese output, for determining their total water use needs for all aspects of cheese production, including but not limited to manufacturing processes, cleaning requirements, spray irrigation and domestic use.**

- **Request that the ZBOA add a condition to the SUP that the water wells and wastewater wells must meet permit requirements even if they are under the level for exempt status. DEQ may choose not to process the permit, but the ZBOA/Cascade County Planning can require that the systems be reviewed and certified by an independent professional engineering firm, not previously associated with MFP, and that this cost be paid by the applicant.**
  - **For water use greater than 35 gpm and 10 acre-feet/year, there is an application for water rights and an application for aquifer testing available (see links below), which would provide a level of accountability needed for this proposed cheese plant.**
    - *https://www.templateroller.com/template/1829217/form-600-gw-groundwater-application-beneficial-water-use-permit-montana.html*
    - *http://dnrc.mt.gov/divisions/water/water-rights/docs/forms/600-ata-aquifer-testing-addendum-u-3-2016- fillable.pdf*

- **Request that the ZBOA not approve the SUP, even conditionally, until MFP has obtained the permits needed and the public has had an opportunity to provide comments on the various permits and conditions.**

- **Request that the ZBOA require expert analysis, at the applicant's expense, of the risks to the Missouri River via Sand Coulee Creek flowing into the Missouri prior to the water treatment plant in Great Falls, plus Antelope Creek and Box Elder Creek flowing into the Missouri south of the treatment plant. Also request expert analysis of the contamination risks to the Madison Aquifer from the lagoons and spray irrigation seepage into the high porosity and wide connectivity of the aquifer to the streams and rivers.**

Respectfully submitted,

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

C.K. Craven
Homeowner

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

July 25, 2019

PUBLIC COMMENTS FOR ZBOA

MFP BIG SKY CHEESE SUP

NEW INFORMATION

NOISE-ODOR-DUST-GLARE POLLUTION

From MFP SUP Application

QI5. *Does the use produce any of the following by-products which may be considered a nuisance? Noise? Glare? Dust? Odor? Smoke? Other?*
If so, explain how this will be reduced or eliminated?

RI5 It should be noted that the entire cheese manufacturing process will occur inside a fully enclosed building and will not be visible to the general public. Still, it is acknowledged that development of the dairy processing facility will change the appearance of a portion of the property from agricultural use to a value-added manufacturing facility using agricultural products. Most of the property will remain in agricultural production. As with any development, including those permitted in the Agricultural zoning district, such as commercial dairy, the facility has the potential to create some noise, night-time lighting, dust, and odors. These potential impacts can be mitigated as described in this application packet. All bulk materials will be placed within a covered, fully enclosed structure so as to eliminate the potential of creating an unsightly appearance. Proper surfacing of roads and parking areas will minimize dust. Manufacturing operations will occur indoors, minimizing noise impacts. Outdoor lighting will be directed downward to reduce glare. Further, the facility will be located in a rural area with little development and well within the boundaries of the MFP property. The dairy processing facility will be more than a mile from any existing residential dwelling. This distance will create a significant buffer zone that will reduce or eliminate impacts from noise, glare, dust and odors.

NOISE

For a dairy processing plant, the principal causes of <u>continuous noise</u> include air discharges, air supply fans, ventilation, pumps, refrigeration units, and aerators on aerated lagoons. Causes of <u>intermittent noise</u> include heavy truck traffic, refrigeration compressors on trucks, movements of transport vehicles to/from the site, whey drying facility and exhaust fans.

C.K. Craven
Homeowner

NOISE CONCERNS

Per MFP SUP Application
The business enterprise is expected to operate 260 days per year, 5 days/week. Plant operations during a typical processing day will be 7:00 am to 4:00 pm. Facility cleaning, disinfecting, maintenance and repairs will be completed throughout the day (between batches) from 4:00 pm to 7:00 pm each evening, and on Saturdays from 8:00 am to 2:00 pm. Anticipated activities exterior to the dairy building will include transport, loading/unloading, security, maintenance, wastewater management, refrigeration, etc.

QUESTIONS FOR MFP

- **Wil the "anticipated activities exterior to the dairy building" as describe above be completed within the times established above? If not, when will they be completed?**
- **Will any activities occur on Sundays?**
- **Is the retail store within the "dairy building" or is it in a separate building?**
- **What other buildings on site will there be and what will those activities include?**
- **When (specifically how many days per week and what hours) will the spray irrigation occur and for how long?**
- **Define "proper surfacing of roads" and describe the type of surface you will use.**
- **When will MFP receive/send shipments? Will there be any "after hours" occurrences of that activity?**

C.K. Craven
Homeowner

NOISE ABATEMENT MEASURES

- **Maintain strict enforcement of operating hours as described in the SUP**
- **Require sound silencers on air intake fans, air discharges and other equipment as identified**
- **Provide enclosure for outdoor equipment**
- **Require mufflers on transport vehicles and other vehicles as needed**
- **Provide acoustic enclosure of outdoor mechanical plan such as pumps**
- **Use concrete construction for buildings such as those that house mechanical plants**
- **Plan the locations of buildings associated with noise to maximize the shielding effect of other on-site structures**
- **Construct barriers around the exhaust stacks to contain noise**
- **Implement an initial and periodic professional assessment of noise emissions to identify when additional abatement measures are needed.**
- **Avoid carrying out operations and activities at any time except during the hours of use identified by MFP as "Monday through Friday 7:00 am to 4:00 pm for plant operations and 4:00 pm to 7:00 pm each evening and on Saturdays from 8:00 am to 2:00 pm."**

QUESTION FOR MFP

- **Is MFP willing to do the above measures and more to mitigate any noise problems?**

C.K. Craven
Homeowner

ODORS

The primary odors with cheese processing are whey and hydrogen sulfide. You may smell and react to certain chemicals in the air before they are at harmful levels. Those odors can become a nuisance and bother people, causing temporary symptoms such as headache and nausea. Other odors can be toxic and cause harmful health effects.

Whey is a pollutant in wastewater. It is greenish-yellow and has a very unpleasant odor and turbid character. Hydrogen sulfide is also abundant in processing wastewater. Toxic chemicals are used in cleaning the equipment and may contribute to the odors. Whey is also spray irrigated on cropland and produces a strong odor that is the impetus for numerous complaints and ultimately lawsuits involving cheese processing and spray irrigation practices.

There are significant noxious odors in the exhaust air from wastewater treatment. The HRGreen report indicated that exhaust air "can" be filtered/treated. "Can" is indecisive. Will it or won't it?

ODOR ABATEMENT

- **Build a conventional sulfide oxidation system**
- **Explore new technology, such as "BioAir's Eco Base" synthetic media, which is designed to provide uniform and optimized mass transfer of odorous compounds under a controlled microenvironment. This company provides information about their system to remove organic and inorganic odorous compounds from municipal and industrial wastewater without using toxic chemicals.**
- **Aerate the lagoons as that provides significant odor mitigation.**

QUESTIONS FOR MFP

- **How does MFP plan to handle the odors from the lagoons and the spray irrigation?**
- **Will the exhaust air from the wastewater treatment facilities be filtered/treated to mitigate odor concerns?**
- **How will MFP respond if there are citizen complaints about odors?**
- **Is MFP willing to invest in state-of-the-art odor mitigation technologies?**

C.K. Craven
Homeowner

DUST

MFP states in R15 above, "Proper surfacing of roads and parking areas will minimize dust".

Dust is a common air pollutant generated by many different sources and activities. The possible harm the dust may cause to your health is mostly determined by the amount of dust present in the air and how long you have been exposed to it. Dust particles small enough to be inhaled may cause irritation of the eyes, coughing, sneezing, hayfever and asthma attacks. For people with respiratory conditions like asthma, chronic obstructive airways disease (COAD) or emphysema even small increases in dust concentration can make their symptoms worse. Currently there is no hard evidence that dust causes asthma. Health symptoms associated with dust inhalation include headaches, nasal congestion, eye, nose, and throat irritation, hoarseness, sore throat, cough, chest tightness, shortness of breath, wheezing, nausea, heart palpitations, drowsiness.

GLARE

From MFP SUP Application

Q21. *Will any outdoor lighting or an outdoor sound amplification system be used? If so, describe how and when they will be used.*

R21. Outdoor lighting consistent with a value-added manufacturing facility will be Installed to provide safety and security. MFP anticipates using state-of-the-art technologies for outdoor lighting to reduce light pollution, including directing lighting downward with full cutoff optics will be installed. No outdoor amplification is anticipated other than those necessary for safety and code-compliant operations. The facility will be located more than a mile from the nearest dwelling reducing the potential for impacts from lighting and noise.

QUESTIONS FOR MFP

- **How far will the light extend on the land?**
- **Will there be lights on the top of the building?**

Respectfully submitted,

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

C.K. Craven
Homeowner

July 26, 2019

Cascade County Planning Board
121 4th St. North, Suite 2 H/I
Great Falls, MT 59405

Re: Big Sky Cheese, LLC

I am submitting these comments in opposition to the proposed Big Sky Cheese Commodity Processing Plant to be located at 8346 US Highway 89, Great Falls, Montana (Section 34, Township 20 N, Range 5 E, P.M.M., Cascade County, Montana).

It is my opinion that the true intent of the proposed Big Sky Cheese Plant is not really for the production of cheese. Only 10% of the milk will be utilized for cheese production, the remaining 90% byproduct is liquid whey which will be sold to farmers/ranchers, primarily our Hutterite neighbors, and the primary use of whey is in hog production. CHEESE PRODUCTION IS INCIDENTAL TO AND WILL ONLY BE USED AS A FRONT FOR FURTHER OPERATIONS!

I believe the cheese plant will be used to provide feed for large scale hog production, and the large scale hog production will be used as a basis for the establishment of the large scale slaughter house previously sought by Friesen.

The hog operations and slaughter house will give rise to repulsive odors for a 10-mile radius, create significant potential problems of waste control, problems for local road networks, problems associated with a large scale migrant workforce and its impact on the local institutions, including medical and educational facilities The benefit of any local jobs being created through the Friesen enterprise and the associated commercial animal operations, if any, does not out way the negative impacts to the economy of Cascade County.

The principal negative impacts of these further operations include, but are not limited to:

- Loss of tourism to the local area leading to a loss of revenue to restaurants, hotels, and general spending in Great Falls.

- Effects on the potential maintenance or development of Malmstrom Air Force Base due to the close proximity of the Friesen property and the associated hog productions and slaughter house which might even result in the closure of the Air Force Base altogether.
- Benefis Healthcare Systems – we are already experiencing difficulties in recruiting physicians and healthcare professionals to Great Falls for a variety of reasons, and this recruitment will only become even more difficult if commercial hog operations and a slaughter house are established in the area.
- The University of Providence – the potential for UP to be a leading educational medical school will be adversely affected by the likely drop in student numbers, and the difficulty in retaining and recruiting educational staff.
- The loss of home values throughout Great Falls, but particularly on the east side of town.

Friesen should be required to abide strictly by the laws, regulations and monitoring of their water usage and waste management through the State of Montana, Department of Natural Resources or other appropriate agencies; and be required to provide clear proposals for waste management as part of any approval for its cheese plant; and provide an explicit undertaking that any cheese production facility which might be approved will not be used to promote hog production in the area nor will it be considered relevant in any future application for a slaughter house.

I want to make it absolutely clear that any approval which might be given to the Friesen/Big Sky Cheese facility should not be used to assist any future application for a meat processing plant. I am in total support of our Montana farmers and ranchers who have proven to be stalwart stewards of the land. I am not in support of Friesen whose only concern, in my opinion, is to line his pockets at the expense of the people and land of this great state of Montana. I believe the only reason Friesen is here is to take advantage of our wide open spaces and our water. We can do better, and Montana deserves better by the development of clean and new industries and the promotion of educational opportunities.

Respectfully yours,

Maureen Nardinger
2330 5th Ave So., Great Falls, MT

Hopkins, Sandor R.

From: Christine <mesh1000@msn.com>
Sent: Friday, July 26, 2019 8:45 AM
To: Planning Comments
Subject: special permit Cheese plant

Hi
I am writing to state some facts and concerns to the special permit.

First and foremost when reading it I had a deja vu of the language used. It was the same as the article that was in the paper when the public was in formed of the Madison Food Park.
Approving this permit with it's current language would allow the slaughter house.

Item 2. reguarding public health and safety-water The wells being 1 mile from other residents is a concern as the Madison Aquafiur is a public water source.
What will happen to Giant Springs state park if the whole park is approved? This is the begininng of it's demise.

Waste water- It states that it would produce the same amount as a residence.
Do the residents out by the cheese plant have pond for thier waste?
The permit states they would use" best management practices". That is very vague as you can see statewide communities that continue to suffer from this staement in reguards to mining communities.

Water usage- Anyone that has free access to any resource will not feel the need to conserve. Who will monitor how much water will be used.

** You need to add to all special permit applications- You arefinancially responsible for leaving the enviroment in the same condition before your project.
Monatanians are often left cleaning up after greedy companies that come in use and abuse our resources. Then take thier profits and leave devistation to us.

In conclusion Mr. Freizien want to build this Park in Canada and Shelby which was quickly denied. the consulting firm in Havre severed all ties to this man. Should this not tell you something.
Cascade will not prosper with this Park . It will be the Hutterites who do not give anything back to this community. they just keep on taking.

It is evident that individuals in the local government will benefit in this project, make thier money, leave town an not look back. That is greed ! Looking out for themsevles not the residents they are to looking out for!

Christine Ward
2701 Carmel DR
Great Falls

FOR OFFICE USE ONLY
Date Received: 7-26-2019
Date Reviewed: 7-29-2019
Complete: ☐ Yes ☒ No

Public Comment Form

Cascade County Public Works Department Planning Division
121 4th St N, Suite 2H-2I Great Falls, MT 59401
Phone: 406-454-6905 | Fax: 406-454-6919
Email: planningcomments@cascadecountymt.gov

Instructions

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Commenter Information

Name: Shannon Guilfoyle

Complete Address: 13 Homestake Ln, Great Falls, MT 59405

Comment Subject (please check one):

- ☒ Special Use Permit Application
- ☐ Subdivision
- ☐ Zoning Text and/or Map Amendment
- ☐ Growth Policy
- ☐ Variance
- ☐ Floodplain Regulation Amendment
- ☐ Subdivision Regulation Amendment
- ☐ County Road Abandonment/ Discontinuation of County Street
- ☐ Other (describe): _____

Comment

RE: BSC&E's Submission Received 11JULY2019; ZOBA Questions Pertaining to Special Use Permit Application for Big Sky Cheese, LLC

It is laughable and insulting that MFP and BSC&E would submit a response to the ZOBA without providing substantial and/or requested data within the provided report and subsequent attachments. For example, ZOBA specifically requested data from test wells on-site. The report provided information on three wells off-site within a range of 3 to 7.5 miles of the proposed Big Sky Cheese infrastructure. Additionally, air quality and wastewater treatment/storage are vaguely addressed; again, ignoring/refusing the ZOBA's specific requests.

As a concerned citizen, it is my opinion that SUP #006-2019 and related supplemental documents are inadequate and incomplete.

I implore the ZOBA to insist that MFP, et. al, take the time to thoughtfully and thoroughly commit to addressing the requests of the Cascade County ZOBA.

For Office Use Only					
Date Received:	7-26-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes ☐ No

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Commenter Information

Name: LaLonnie Ward, Dennis Ward, Janny Kinion-May

Complete Address: 70 McKinior Road, Great Falls, MT 59405

Comment Subject (please check one):

- ■ Special Use Permit Application
- ☐ Subdivision
- ☐ Zoning Text and/or Map Amendment
- ☐ Growth Policy
- ☐ Variance
- ☐ Floodplain Regulation Amendment
- ☐ Subdivision Regulation Amendment
- ☐ County Road Abandonment/ Discontinuation of County Street
- ☐ Other (describe): _____

Comment

Attached please find our public comment regarding the additional materials requested by the ZBOA regarding the Special Use Permit Application # 006-2019 submitted by Big Sky Cheese, LLC / Madison Food Park, LLC.

For Office Use Only					
Date Received:	7-26-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes ☐ No

26 July 2019

To: Cascade County ZBOA

RE: Big Sky Cheese Special Use Permit Application #006-2019

Members of the Board,

In reviewing the additional materials requested by the ZBOA and subsequently submitted by the applicant, the information provided appears to raise more questions than provide answers.

The applicant, being familiar with the Cascade County SUP process, should have included the additional requested materials in the original SUP application. Furthermore, the additional materials provided now, only at the request of the ZBOA, lack clarity.

For instance:

MFP may employ a technology called acidification to treat process wastewater.... Will they or won't they? If they don't use this technology, what do they plan to use instead?

The acidification equipment, if deemed necessary, will be housed in the processing facility... Will this require an increase in the size of the facility? If so, by how much will the facility size need to be increased?

The process wastewater will be pretreated using nutrient reduction/removal technologies, then stored in holding pond(s) approximately 2-3 acres in size, followed by beneficial reuse for seasonal land application of treated effluent on approximately 10-15 acres of cropland... Are the soils onsite suitable for holding ponds? How are the holding ponds to be constructed? Are the soils designated for application of treated effluent suitable for the process?

Process wastewater solids will be collected and stored inside the facility and hauled off-site for disposal as needed to avoid potential odors from solids produced... How much wastewater solids will result? Will storage of the wastewater solids require an increase in the size of the facility? If so, by how much will the facility size need to be increased? Where is the proposed off-site location for the eventual disposal of the wastewater solids?

If permitted (non-exempt) wells are required, potential depletions at the Missouri River at Great Falls will be offset with a water service contract from the U.S. Bureau of Reclamation (BOR) to replace all water pumped from the Madison. The BOR

mitigation water would be released from Canyon Ferry Reservoir Storage into the Missouri River... So now, in addition to water taken from the Madison Aquifer, this project could also cause depletions of the Missouri River? How exactly would waters pumped from the Madison Aquifer be replaced by releasing water into the Missouri River from the Canyon Ferry Reservoir?

Given the failure of the applicant to address these types of issues in the original SUP application, and now raise more questions regarding water use and resulting wastewater treatment, storage, and disposal, in subsequently requested materials, we kindly request the ZBOA deny the Big Sky Cheese/Madison Food Park Special Use Permit #006-2019.

Your consideration is greatly appreciated.

Sincerely yours,

LaLonnie Ward
Dennis Ward
Janny Kinion-May

70 McKinior Road
Great Falls, Montana 59405

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Commenter Information

Name: Anne Hedges, Montana Environmental Information Center

Complete Address: P.O. Box 1184, Helena, MT 59624

Comment Subject (please check one):

- ☒ Special Use Permit Application
- ☐ Subdivision
- ☐ Zoning Text and/or Map Amendment
- ☐ Growth Policy
- ☐ Variance
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- ☐ Other (describe): _____

Comment

See attached.

For Office Use Only					
Date Received:	7-26-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes ☐ No

MEIC

July 26, 2019

To: Cascade County Zoning Board of Adjustments

From: Anne Hedges, Deputy Director, Montana Environmental Information Center

RE: Big Sky Cheese, LLC – Madison Food Park, LLC, Special Use Permit #006-2019

The Montana Environmental Information Center is a member-based nonprofit organization dedicated to the protection and restoration of Montana's natural environment since 1973. MEIC has many members in Cascade County, including in the area of the proposed Madison Food Park slaughterhouse and now Big Sky Cheese proposal. MEIC has significant concerns about this Special Use Permit (SUP) application based on water quality and quantity and urges the board to deny the SUP based on water resource impacts as well as many of the issues articulated in comments from Kathleen McMahon and others.

The initial SUP application provides vague commitments and often qualified promises regarding water protections. The June 27, 2019, "Cascade County Staff Report," (Staff Report) simply reiterates the application language yet does not clarify the details or enforceable obligations that must be imposed on the applicant to guarantee protection of water resources. The document on the County website titled "Additional Information Requested by the Zoning Board," (Additional Information) filed on July 11, 2019, does nothing to provide additional detail or certainty for water resource protection. County-imposed specific and enforceable obligations are essential to protect water resources. Without such requirements there is no way to verify protection of water resources and eventually hold the applicant accountable for impairment of those resources.

The vague alternatives provided by the applicant in Additional Information, and specifically the expert letter from HRGreen, dated July 10, 2019, provides no additional information on how wastewater will be treated and stored. Instead it continues to rely on the exact same vague assurances for waste water disposal and treatment that are contained in the document labeled "Full Submittal," dated April 2019, on the County website. In fact, the language in both documents is essentially identical with such unsupported statements as, "MFP *may* employ a technology called acidification...," (emphasis added), or "Wastewater treatment will be completed onsite using Montana DEQ-approved wastewater treatment system(s). Commonly practiced treatment technologies will be used ...." This lack of specification provides no information regarding what type of treatment or pretreatment methods will be employed or enforceable, let alone whether they will be sufficient. The staff's analysis of this inadequate

OFFICE: 107 W. LAWRENCE ST., #N-6, HELENA, MT 59601 ◦ MAILING: P.O. BOX 1184, HELENA, MT 59624
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information is even more incomplete. A simple sentence that says, "Sewer and water will be provided for on-site," is devoid of any analysis or guarantee about water quality related issues.

The application is devoid of information regarding the type, sufficiency, or durability of wastewater liners that will be used to protect groundwater resources. The project tries to provide an assurance with the simplistic statement that the project will rely on "adequate liners and/or best management practices to avoid leaks and spills." First, the applicant doesn't commit to actually lining the pond(s). Second, the applicant provides no information regarding the type of liner, the adequacy of the liner, or the liners ability to function properly in the conditions that exist at the site. Some impoundments across the state rely on existing earthen material as a liner. This is the same as having no liner at all. Nothing in the application materials guarantees that the ponds will have man-made fabricated liners sufficiently thick and engineered to protect groundwater resources. Furthermore, the staff report requires no such protective measure.

Regarding water quality, the applicant's Additional Materials suggests that water quantity depletions can be offset by contracting with the U.S. Bureau of Reclamation to replace water pumped from the Madison aquifer. First, after contacting staff at the Bureau, it is clear that no such application has been requested, let alone approved. Second, this type of mitigation would do nothing to alleviate any impacts suffered by downgradient water users between the proposed project area and the Missouri River. If allowed, the Bureau would only be replacing water in the Missouri River that is no longer receiving supply from the depleted aquifer. Any adjacent or downgradient water users would receive no relief under this remedy. The deficiency in the original application is not alleviated by the provisions of the Additional Materials. Little analysis is provided other than a casual statement that plenty of water is available .

Finally, we are concerned about the apparent attempt to receive a permit from the County for a smaller proposal (cheese factory) and then, incrementally, increase industrial land uses to more closely resemble the original application for a large multi-species slaughterhouse. This proverbial "foot-in-the-door" land use change attempts to prevent the public and decision makers from fully reviewing the entire proposal and its impacts prior to making a commitment of resources. This incrementalism should be rejected.

In sum, we are concerned about the applicant's vague assurances and qualified commitments to water quality and quantity protection and the staff's cursory response to those issues. These deficiencies make the application insufficient to protect water quality and guarantee that water quantity for downgradient uses will be preserved.

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Commenter Information

Name: Kathleen McMahon

Complete Address: 151 Wedgewood Ln., Whitefish, MT 59937

Comment Subject (please check one):

- ☒ Special Use Permit Application
- ☐ Subdivision
- ☐ Zoning Text and/or Map Amendment
- ☐ Growth Policy
- ☐ Variance
- ☐ Floodplain Regulation Amendment
- ☐ Subdivision Regulation Amendment
- ☐ County Road Abandonment/ Discontinuation of County Street
- ☐ Other (describe): _____

Comment

See Attached memo dated 7-26-19

For Office Use Only						
Date Received:	7-26-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes	☐ No

To: Cascade County Zoning Board of Adjustments

From: Kathleen McMahon, AICP
Montanans for Responsible Land Use (MFRLU)

Date: 7-26-19

Re: Additional Information regarding SUP #006-2019 (Big Sky Cheese)

I. BACKGROUND

On June 27, 2019 the motion of the Zoning Board of Appeals was to table action on SUP #006-2019 pending receipt of requested information from the applicant regarding air quality, water quantity and water quality. The applicant has submitted additional information. The purpose of this memo is to respond to that information as requested by the ZBOA.

II. AIR QUALITY

- **Emissions -** The original application did not contain any information regarding potential emissions. Although the ZBOA requested air quality information at the June 26, 2019 hearing, the supplemental information dated July 11 did not contain any information regarding air quality concerns, potential emissions related to manufacturing processes or required permits from DEQ.

- **Odors -** The public has expressed concerns about odors. The staff report notes that manufacturing operations will be indoors. Even with indoor operations, emissions from such operation can still create odors. Additionally, storage ponds for treated wastewater, will be located outdoors and there can also be odors associated with these lagoons. Although the application states that "... *The development plan will include design measures directly targeted at mitigating odors.",* no detail has been provided on what these design measures might include. There are no proposed conditions that would require the applicant to institute such design measures or otherwise mitigate odors should they occur. The applicant also states that odors will be limited because, "No livestock or dairy cows will exist on-site." There is no condition in the staff report that would enforce this statement.

- **Dust -** Another air quality concern regards dust from unpaved roadways. The facility will have a one-mile access road from U.S. Highway 89 to the manufacturing plant. Although the application does state that "Proper surfacing of roads and parking areas will minimize dust" (Q.15), there is no description or plans to indicate if the road/parking areas will be paved. There are no conditions in the staff report that requires the road/parking areas be paved. There are no conditions that require dust control on-site. Dust can also be a concern during construction and with on-site operations related to use of heavy equipment.

III. WATER QUANTITY

- **Water Demand -** The additional information states that the cheese processing facility will require an estimated 13,000 gallons of water per day or 10-acre feet per year. There are no calculations or information on the assumptions that were used to produce this estimate. The applicant noted during the hearing that data was based on sister facilities in Canada and Wisconsin. The Zoning

Board of Adjustments requested data from these facilities, yet there is no information on record from these sister facilities. There has been no review by the Department of Natural Resources and Conservation to verify that the assumptions and estimates on water usage are accurate.

- **Test Wells –** The SUP application stated, *"A well contractor will be employed to construct a test well and provide test pumping so as to demonstrate that existing wells on adjacent properties will experience no adverse impacts."* According to the audio tape from 6-27-19, the Zoning Board specifically asked for information from test wells on the subject property be submitted **prior** to the next meeting. Test wells provide baseline data on withdrawal rates and water quality. Such baseline data is necessary for monitoring, for designing facilities and in the eventuality that there are future claims or enforcement actions regarding adverse impacts related to such wells. The applicant's engineer stated that such test results could be available in about two weeks. The additional information submitted by the applicant, however, only contains information from three existing wells located **off-site**. The Montana Prairie Nest well is located 7.5 miles from the proposed facility. The Hill Top Colony well is located approximately 3 miles from the proposed facility. The Town of Sand Coulee well is located 4 miles to the southwest. There is no record of reviews by DNRC, DEQ or other state agency on whether data from test wells located at such distances are sufficient to make accurate assumptions about adverse impacts on nearby wells.

- **Exempt vs. Non-Exempt Wells –** The applicant notes that wells pumping less than 10-acre feet of water are exempt from permitting. Since the estimated for water usage is equal to exactly 10-acre feet, even a slight alteration in the assumptions could increase projected demand to a degree that the well would require a permit. Without a description of the assumptions that were the basis for the estimate and lacking verifiable data on water usage, it is not possible to determine if the projected water use will exceed standards for exempt wells. There is no review on record from DNRC regarding the assumptions that were used to determine that the wells would be exempt. There are no conditions in the staff report that require monitoring of amount of actual water use at the cheese plant to ensure operations do not exceed the exempt well limits.

- **Aquifer Depletion Mitigation Strategy -** The additional information also states that, "If permitted (non-exempt) wells are required, potential depletions at the Missouri River at Great Falls will be offset with a water service contract from U.S. Bureau of Reclamation (BOR) to replace all water pumped from the Madison. The BOR mitigation would be released from Canyon Ferry Reservoir storage into the Missouri River." There is no review on record from DNRC, DEQ or BOR on the effectiveness of this solution to address issues with impacts to the aquifer. As noted below, Montana Fish, Wildlife and Parks expressed a concern regarding depletion of the aquifer on Giant Springs. Giant Springs has unique characteristics such as constant water temperature and flow that are critical for the fisheries. Releasing water into the Missouri River at Canyon Ferry would not replace water in the actual aquifer and therefore would not mitigate potential adverse impacts to the Giant Springs or other adjacent wells. There is no record that Montana Fish, Wildlife and Parks or other uses that rely on the aquifer have been notified of this proposed mitigation.

- **Cumulative Impacts** – A letter from Montana Fish, Wildlife and Parks expresses concerns about cumulative impacts of wells withdrawing from the Madison Aquifer. The letter notes the following, "...however, Big Sky Cheese proposed to tap the Madison Aquifer for an annual volume of 10.3 acre-feet. While the proposed water use is nowhere near the 2,836 ac-ft that was being proposed for the Madison Food Park, this is still a significant withdrawal of water even for a prolific aquifer such as the Madison, particularly considering the ongoing development of the Madison aquifer in the Great Falls

area by small wells exempt from regular water right permitting. We recommend Cascade County Planning Division consider the cumulative impacts to water development on the Madison Aquifer of this and other developments. The Madison Aquifer is the source water for Giant Springs. The proposed water use of the Madison Aquifer water by Big Sky Cheese and potential future water use by the larger Madison Food Park project could impact the output of Giant Springs and should be considered in your decision-making process."

- **Fire Fighting –** Another concern is the availability of water for firefighting purposes. Although the applicant has stated that water for firefighting will be provided through on-site storage, the Cascade County subdivision ordinance only allows such storage for single-family residences. (Section 10-15) . The subdivision ordinance requires that multi-family structures provide for wells with a minimum withdrawal rate of fifteen hundred (1500) gallons per minute for a two (2) hour minimum. Commercial structures are subject to requirements of the State Building Code. The application did not contain an evaluation of whether the current water supply is adequate for commercial or industrial structures and there is no record of review by the Sand Coulee Fire Department or State Fire Marshall office regarding the proposed on-site storage water supply.

  This is of concern because the access road from Highway 89 will extend for more than a mile to the building site. The site plan does not provide for any secondary access and there has been no discussion or requirements that the proposed access road be constructed to standards that will accommodate emergency vehicles. There is no proposed condition in the staff report that provides for accommodation of emergency vehicles or that specifies the amount of water storage or on-site water pumping that will be required for firefighting.

IV. WATER QUALITY

- **Wastewater Generation –** The additional information that was submitted on July 15 estimates that the cheese plant will generate approximately 13,000 gallons of process wastewater per day. This is based on a multiplier of 1.2 gallons of process water per gallon of milk (See memo dated 7-10-19 from HRGreen). Process wastewater is generated from operations related to cooling, evaporation, cleansing and sanitation. As part of the public comment, Ms. Carolyn Crave submitted a study from the "Food Technology/Biotechnology Journal" that estimated wastewater from dairy manufacturing processes to be 2.5 gallons of process water per gallon of milk. If this multiplier is used, twice the amount of wastewater will be generated. During the 6/27/19 hearing the applicant stated that data was available from sister operations in Canada and Wisconsin. The Zoning Board of Adjustments requested data from these facilities, yet such information has not been submitted.

  There has been no review by the Department of Environmental Quality to verify that the assumptions and estimates on wastewater usage are accurate. Given the wide range of estimates, it is important to have additional data and independent review to determine more accurate estimates of wastewater. Since wastewater will be applied to the soil through spray irrigation, this information is critical to determine potential impacts on groundwater.

- **Soil Suitability for Spray Irrigation –** The additional information states that, "MFP may employ a technology called acidification to treat process wastewater before seasonal storage and beneficial reuse via land application/irrigation." Prior to the previous hearing, Ms. Craven submitted public comments that included a report from the Wisconsin Department of Natural Resources, Waste Management Issues for Dairy Processors. Regarding spray irrigation systems, the report stated, "The operation of these systems requires that there be suitable soils and at least five feet of

separation to groundwater and bedrock." Soil survey reports that were submitted as part of public comment indicated that the soils in the area that are designated for spray irrigation are rated as "Very limited" or "Somewhat limited" for wastewater disposal by irrigation. The reasons for the rating were, "Depth to Bedrock", "Droughty", "Slow water movement", and "Too steep for sprinkler application."

The NRCS soil survey also states, ""Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected." There has been no independent analysis of soils for the spray irrigation of wastewater and the staff report does not contain any requirements that design measures be undertaken to minimize soil limitations for spray irrigation.

- **Groundwater and Surface Water Contamination -** According to DEQ, Circular PWS 6, regarding source water protection, wastewater treatment facilities are considered potential sources of contamination with acute health impacts. Specifically, "Waste treatment activities are assigned high hazard ratings." According to DEQ, Circular PWS 6 regarding source water protection, "Surface water bodies are considered to be hydraulically connected to ground water if they flow over an inventory region in an unconfined alluvial aquifer, unless there is credible evidence to the contrary."

  The SUP application states the following, "The existing topography is generally rolling hills with moderate slopes. The north side of the property drains northerly toward the MDT R/W. Storm drainage from the north side of the property will eventually reach the Missouri River. The south side of the property drains south and west into Antelope Creek and eventually enters Sand Coulee Creek, which also discharges to the Missouri River just upstream and south of City of Great Falls." Box Elder Creek is located approximately one-half mile to the east of the proposed spray irrigation area. Box Elder Creek is a tributary to the Missouri River.

  The site plan indicates three potential areas for holding ponds and two potential areas for spray irrigation. There has been no assessment of the design of the wastewater facilities or the potential adverse impacts to groundwater , Antelope Creek, Sand Coulee Creek, Box Elder Creek or the Missouri River. Some of these facilities are even located outside the legal description of the SUP and consequently it is not clear that they would be subject to the SUP conditions.

V. REGULATORY REQUIREMENTS

The Zoning regulations state the following regarding the standard of review for special uses.

> **"10. 9** In reviewing Special Use Permit Applications, the Zoning Board of Adjustment will hold a public hearing to allow the staff, petitioner, and other interested parties to present competent, substantial, and material factual evidence relating to the required conclusions.
>
> **Note:** The petitioner bears the burden of presenting sufficient factual evidence to support findings of fact that allow the Board to reasonably reach each of the required conclusions."

The staff report contains recommendations that the SUP be conditioned on the applicant obtaining local, state and federal permits. These permits require data, studies and other information in order for the agencies to complete their review. For the following reasons, such data and studies should be available for public review and comment as part of the SUP public hearing **before** the SUP is approved.

- The ZBOA and interested parties have a right to review and comment on assumptions, interpretations and proposed mitigations that are critical to the site layout, plant design and operations of the special use.

- The permitting agency may suggest alterations in the design and operation of the proposed special use that would modify the site plan or operations and such changes may impact other aspects of the special use and would be of interest to the public.

- Suggested alterations in the design and operation of the proposed special use by a permitting agency may require additional conditions that can only be imposed by the ZBOA through the public hearing process.

- The state and federal permits do not include review of land use and growth policy issues. These are outside the purview of the permitting agency. For instance, wastewater permits may require changes to the site layout that would reduce the proposed buffer area or expand the footprint of the storage ponds. The agency defers to the local authority to make a determination if such changes comply with zoning or are consistent with the Growth Policy.

- The zoning regulations (Section 10.6) require that compliance with zoning/Growth Policy is a consideration **BEFORE** any approval of the Special Use Permit.

For the same reasons, it should be clear that a location conformance permit cannot be issued and no construction shall commence unless (a) the application is consistent with the site plan and application material for the SUP (b) all conditions of the special use approval have been completely satisfied and (c) all required permits from local, state and federal agencies have been granted. An LCP that is conditioned on additional studies or permit review can result in substantial amendments to the site plan or conditions of approval. Such changes should require a new application and public hearing before the Board of Adjustment and allow for public comment.

VI. LACK OF SUBSTANTIAL AND MATERIAL FACT TO REACH REQUIRED CONCLUSIONS

MRFLU request that the ZBOA deny the special use permit because there is a lack of substantial and material fact required for the ZBOA to meet the required conclusions. Following is a summary of findings supporting the denial of the SUP application.

1. The application lacks any information regarding air quality and emissions from the manufacturing process.

2. The application lacks information on specific design measures that will be employed to reduce odors.

3. The application lacks any information on the design of the access roads, parking areas, or loading areas. Design information should include at a minimum, dimensions and surface type.

4. There is no record of an independent review by DNRC or information from comparable operations to verify assumptions regarding water usage.

5. The application lacks data from on-site test wells. Even though the ZBOA specifically requested this information, the existing well data is from off-site wells located three or more miles from the site. *(Note: Subdivisions with much less impact than the proposed cheese plant routinely submit test well data, so it is not an unreasonable cost to require this.)*

6. There is no record of an independent review by DNRC or DEQ of the off-site well data and the assumptions used for the evaluation model on proposed water wells or the potential adverse impacts on adjacent wells.

7. There is no record of review or comments from the Bureau of Reclamation, DNRC, FWP or other interested parties on the feasibility or effectiveness of the proposed mitigation to release water from Canyon Ferry to offset water withdrawals from the Madison Aquifer.

8. The application does not address the concerns of Fish, Wildlife and Parks regarding cumulative impacts of wells on the Madison Aquifer and potential impacts to Giant Springs.

9. The application lacks information on the amount of water, or pumping capacity required for fire-fighting purposes.

10. There is no record of an independent review by the State Fire Marshall or Sand Coulee Fire Department regarding whether the proposed water supply for fire protection meets standards for commercial/manufacturing uses.

11. There is no record of an independent review by DEQ or information from comparable operations to verify assumptions and projections regarding wastewater generation and wastewater treatment.

12. The application lacks any assessment of potential adverse impacts from groundwater or surface water from the spray irrigation of wastewater effluent.

13. The SUP legal description does not include parcels with potential storage ponds or spray irrigation, and it is unclear if conditions for the SUP would apply to these parcels.

14. There is no record of any independent review by the Natural Resource Conservation Service or other expert on soil suitability for spray irrigation and proposed mitigation measures.

15. Additional findings may be necessary to reflect previous public comment.

VII. LACK OF CONDITIONS TO MITIGATE POTENTIAL CONFLICTS

Only **after** the applicant submits sufficient information, can the ZBOA determine all the necessary conditions to mitigate potential conflicts per section 10.6 of the zoning ordinance. Based on the application material that has already been submitted, there are numerous statements regarding mitigation measures to address the SUP criteria. There has been no input from permitting agencies or other professional review that indicate that the mitigation measures would be effective. Even if such measures were sufficient, staff report fails to impose any conditions that will require that such measures be implemented. Additionally, there are no conditions in the staff report that specify monitoring or enforcement mechanisms if the design or operations fail to meet certain standards. To address these concerns, following is a list of the issues that should be mitigated through conditions. Such conditions should be reviewed for effectiveness and enforceability and should be subject to public review process prior to approval of the SUP.

1. Designs and adoption of odor control for related to emissions.

2. Restrictions on livestock and dairy cows are prohibited on-site in the application.

3. Design standards regarding width, pavement and subsurface for access road to accommodate emergency vehicles and provide for dust control.

4. Record permanent access easement across parcel with GeoCode #02-3017-27-3-02-01-000.

5. Emergency secondary access

6. Dust control plan to address air quality concerns during construction and to address potential dust related to on-going plant operations.

7. Monitoring of water usage and provision to curtail operations or amend the special use permit if water usage exceeds the standards for exempt wells.

8. Conditions to provide adequate water supply for firefighting.

9. Monitoring of wastewater generated and provision to curtail operations or amend special use permit if wastewater usage exceeds projected use in the SUP

10. Mitigation strategies to prevent groundwater/surface water contamination related to the spray irrigation and holding ponds. (Based on input from expert review monitoring of spray areas may be advisable.)

11. Proposed mitigation strategies, plant operations or construction designs that are referenced in the application materials specified as conditions that must be met prior to issuing an LCP.

12. Data and studies that still need to be submitted may suggest additional conditions.

Public Comment Form

Cascade County Public Works Department Planning Division
121 4th St N, Suite 2H-2I Great Falls, MT 59401
Phone: 406-454-6905 | Fax: 406-454-6919
Email: planningcomments@cascadecountymt.gov

Instructions

This form is for providing public comment to the Cascade County Planning Division for review by any one or more of the following review and/or approval boards: Zoning Board of Adjustment (ZBOA), Planning Board, or Board of County Commissioners. Only complete submissions will be included for board review. Please provide the relevant information for each section below. A complete submission provides all of the following: commenter name and address, comment subject, and commentary on the subject issue(s). If additional space is needed for commentary, please attach additional sheets to this form. Completed forms may be submitted in person at the Planning Division office or by email at planningcomments@cascadecountymt.gov.

Commenter Information

Name: Carolyn K. Craven

Complete Address: 101 14th Avenue South, Great Falls MT 59405

Comment Subject (please check one):

☐ Special Use Permit Application ☐ Subdivision ☒ Zoning Text and/or Map Amendment

☒ Growth Policy ☐ Variance ☐ Floodplain Regulation Amendment

☐ Subdivision Regulation Amendment ☐ County Road Abandonment/ Discontinuation of County Street

☒ Other (describe): Big Sky Cheese

Comment

06.19.19 Cascade County & City of Great Falls
06.19.19 New & Revised Definitions
06.20.19 Special Use Permit
06.20.19 Commercial Dairy Zoning
06.22.19 Carbon Footprint of Cheese Production ZBOA
06.25.19 Highlights MT Milk Study ZBOA
06.26.19 Waste Management Issues for Dairy Processors ZBOA
06.26.19 Big Sky Cheese Recommendations ZBOA
06.26.19 Public Participation ZBOA
06.26.19 Life Cycle Assessment of Cheese & Whey ZBOA
06.26.19 Treatment of Dairy Wastewater ZBOA
06.27.19 Big Sky Cheese Parcels Public Notice ZBOA
06.27.10 Big Sky Cheese Findings on Analysis ZBOA
06.27.19 Big Sky Cheese Growth Policy Compliance ZBOA
07.19.19 Big Sky Cheese New Whey Process Wastewater Concerns ZBOA
07.24.19 Big Sky Cheese Supplemental Info MCA-Exempt Wells-Reclamation ZBOA
07.25.19 Big Sky Cheese Supplemental Info Water Concerns ZBOA
07.25.19 Big Sky Cheese Noise-Odor-Dust-Glare Issues ZBOA
07.26.19 Big Sky Cheese Air Quality ZBOA

For Office Use Only					
Date Received:	7-26-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes ☐ No

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

July 26, 2019

PUBLIC COMMENTS FOR ZBOA

MFP BIG SKY CHEESE SUP
NEW INFORMATION
AIR QUALITY

ZBOA REQUEST FOR ADDITIONAL INFORMATION

At the June 27th ZBOA meeting, Ms. Levine requested additional information on water, wastewater, and air quality. The supplemental information received on July 11 did not include any information on air quality concerns or potential emissions related to the manufacturing processes.

- Will the ZBOA follow-up on the omission of the requested air quality information?
- Will the public then have an opportunity to comment on what is provided by the applicant?

Respectfully submitted,

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

Public Comment Form

Cascade County Public Works Department Planning Division
121 4th St N, Suite 2H-2I Great Falls, MT 59401
Phone: 406-454-6905 | Fax: 406-454-6919
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- ☒ Special Use Permit Application
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- ☐ County Road Abandonment/ Discontinuation of County Street
- ☒ Other (describe): Big Sky Cheese

Comment

07.26.19 Big Sky Cheese Additional Questions ZBOA

For Office Use Only					
Date Received:	7-26-2019	Date Reviewed:	7-29-2019	Complete:	☒ Yes ☐ No

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

July 26, 2019

PUBLIC COMMENTS FOR ZBOA

MFP BIG SKY CHEESE SUP
NEW INFORMATION
ADDITIONAL QUESTIONS

ENVIRONMENTAL

- Will ZBOA require a DEQ Environmental Assessment for possible impacts to land, air and water?

WASTEWATER

- Request MFP provide the calculations used to determine the 12,960 gpd amount of wastewater produced.

- Request MFP provide scientific research on the effectiveness and safety of the proposed waste management practices (not just "state of the art" but show the research and studies on the current best practices, on what research are they based and particularly with the geology of the aquifer area in Cascade County) and what modifications may be needed during winter.

- What is the plan to prevent surface water pollution?

- What is the plan to prevent ground water pollution from lagoon management and/or spray fields, with what specific seasonal adjustments?

- Will wastewater be pretreated prior to storage in a lagoon? According to the literature, this is necessary to control odors that would develop from storing an unaerated, untreated waste.

- On staff recommendation Alternative 2 there is no mention of wastewater, storing process wastewater in open lagoons and spray irrigating on fields. There are numerous concerns with backup of wastewater during winter months, concerns about leaks in lagoons or spillage from heavy rains and weather uncertainties, plus concerns about noxious odors for which there is no plan for mitigation.

C.K. Craven
Homeowner

- From MFP SUP "liquid whey will be hauled to area ranchers and used beneficially as a food source". Q: Which animals consume liquid whey as a food source? Cows? Chickens? Hogs?

SPRAY WASTEWATER IRRIGATION

- How will spray irrigation amounts be monitored to comply with agronomic spray rate, avoid oversaturation and likely seepage into the groundwater?

- How will the suitability of the soils to accept wastewater irrigation be determined?

WATER WELLS

- MFP states they will drill two wells into the Madison Aquifer. Each will be 35 gpm with 10 acre-feet/year. Their estimated water use is 12,960 gpd and 10.3 acre-feet/year. That would presume actual water use of six hours per day for 260 days. It appears the basic information on projected water use is flawed as the SUP states 260 days per year of water use. The facility is open for five days per week plus cleaning on Saturdays. There are typically 53 Sundays in a year, so 365-53 = 312 days of water use. Not sure if water use is calculated per number of hours in a day (i.e. 24 hrs) or by number of working hours in a day (~12). Please provide rationale and research-based calculations for choosing how many gallons per day of water will be used for all operations.

For 312 days (6 days/week @ 24 hrs/day)

- 35 gpm x 60 mph = 2100 gph x 24 hrs = 50,400 gpd x 312 days = 15,724,800 gpy
  - 15,724,800 gpy divided by 325,851 gallons/1 acre-ft = 48.25 acre-ft/yr

For 312 days (6 days/week @ 12 hrs/day)

- 35 gpm x 60 mph = 2100 gph x 12 hrs = 25,200 gpd x 312 days = 7,862,400 gpy
  - 7,862,400 gpy divided by 325,851 gallons/1 acre-ft = 24.13 acre-ft/yr

For 312 days (6 days/week @ 8 hrs/day)

- 35 gpm x 60 mph = 2100 gph x 8 hrs = 16,800 gpd x 312 days = 5,241,600 gpy
  - 5,241,600 gpy divided by 325,851 gallons/1 acre-ft = 16.085 acre-ft/yr

For 312 days (6 days/week @ 6 hrs/day)

- 35 gpm x 60 mph = 2100 gph x 8 hrs = 12,600 gpd x 312 days = 3,931,200 gpy
  - 3,931,200 gpy divided by 325,851 gallons/1 acre-ft = 12.06 acre-ft/yr

Even with a minimum water use of 6 hours/day water use, that is 12.06 acre-feet per year for each well. Combined total would be 24.12 acre-feet per year, which would be consistent with a permitted well (>10 acre-feet/year).

C.K. Craven
Homeowner

- Request MFP provide the calculations used to determine amount of water use needed per day, month and year to provide the anticipated cheese output? MFP states their two proposed wells into the Madison Aquifer will be exempt as they will be less than 35 gpm and 10 acre-feet/year.

NONSPECIFIC NONCOMMITTAL VERBIAGE

- "Beneficial reuse" – please define "beneficial reuse" specifically for this proposed manufacturing facility, confirming with science-based rationale for "beneficial".

- "BMP/Best Management Practices" – please be specific as to what the best management practices are for the particular situation described.

- The acidification process equipment, "if deemed necessary" - when will you know?

- There are numerous examples of other noncommittal terms such as "may use", "is considering", "may review", "may employ" a technology, the storage pond "may be aerated" (Note: aeration is essential to mitigate odors), "may consider green alternatives" (in addition to no commitment, please define "green technologies"), the exhaust "can" be filtered – but will it?, etc. There are no commitments from MFP on any of these issues.
    - There is no staff clarification on any of the above either.
    - Example of "noncommittal": *I kinda sorta think I might perhaps consider exploring the idea of possibly looking into some kind of device or technology to deal with the alleged possible odors from the exhaust fans……or maybe not!*

INCOMPLETE APPLICATION

- MFP <u>also underestimated the amount of water</u> by basing it on only five days per week. MFP has not revealed how they calculated their water use needs. Per the SUP, MFP reports the retail area will be open M-F 8:00am-4:00 pm, plant operations from 7:00am to 4:00 pm and cleaning from 4:00 pm-7:00 pm. They also state cleaning will occur on Saturdays from 8:00 am to 2:00 pm. Additionally, they state anticipated activities exterior to the dairy building will include transport, loading/unloading, security, maintenance, wastewater management, refrigeration, etc. However, they do not indicate the time of day these exterior activities will occur and if any will occur on Sundays. They also do not report if there will be deliveries or pickups outside of the above stated hours.

C.K. Craven
Homeowner

- MFP has significantly underestimated the traffic and they have not provided the estimated numbers of "skilled and management" positions. The 5-10 employees are FTE laborers. That could raise the total number of vehicle trips for the laborers from 5-10 each way to 10-20 or more. There will be heavy trucks to deliver supplies plus milk tankers to deliver milk and others to take away whey. There would also be significant construction traffic.

- The justifications to correlate this manufacturing entity to the 2014 Cascade County Growth Policy Goals were often very weak, with the exception of numerous promises to fulfill all of the economic objectives in Goal #1. There were no correlations to protecting surface and groundwater water quality and sustainability, maintaining Cascade County's rural character, protecting the soils, minimizing impact to wildlife and fisheries, and protecting and maintaining Cascade County's rural character and open spaces.

Thank you to the ZBOA members for volunteering your time for this important board. Thank you for reading our comments and considering them in the decision-making process. This is my home. I grew up here and lived out-of-state for several years. I retired and returned to my beloved home city and state. I value our healthy croplands and grazing lands, wide open spaces, clean air and clean water (except for all the mining wastes), the river's edge trail, hiking and recreation, beautiful sunrises and sunsets, arts and music activities and a warm and inviting community. Why would we want to risk our prime farmland and quality water for the types of future industrialized animal production planned that has known environmental risks with often irreparable damage? The cheese plant might be better situated in the Great Falls AgriTech area with established infrastructure. Many of us in our community know we would be better served with our existing productive agricultural cropland and clean environment. Great Falls recently was acknowledged as being in the top 100 most livable cities with 50,000-75,00 population and also recognized as in the top ten best places to start a small business. We have so many opportunities to expand tourism, attract environmentally neutral businesses and expand our culturally rich and friendly community.

Respectfully submitted,

Carolyn K. Craven
101 14th Avenue South
Great Falls, MT 59405

C.K. Craven
Homeowner